

**09248980**  
**Notice of Allowability**

Application No.

09/248,980

Examiner

Alexander Eisen

Applicant(s)

ABE, NAOTO

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2674

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 25 October 2004.
2. ☒ The allowed claim(s) is/are 51-57.
3. ☒ The drawings filed on 12 February 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |



Alexander Eisen  
Primary Examiner  
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## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 51-57 are allowed.
2. The following is an examiner's statement of reasons for allowance: none of the references, either individually or in combination, teach or fairly suggest an image forming apparatus comprising a display panel adapted to display an image; a pulse width modulation signal generator adapted to input digital data corresponding to the image and a clock signal, and to count pulses of the clock signal for in correspondence with the digital data to generate a pulse width modulation signal for driving the display panel, wherein the pulse width modulation signal has a pulse width that corresponds to a number of pulses of the clock signal corresponding to a gray scale level of the image; and a clock generator adapted to generate the clock signal, wherein the clock generator is provided with a memory for storing a plurality of items of data and the clock generator is arranged to generate each pulse of the clock signal in accordance with one of the items of data read from the memory in synchronism with a reference clock signal.

**Negishi et al., JP 05-241526**, discloses an image forming apparatus [FIG. 2] comprising a display panel 22 adapted to display an image; a pulse width modulation signal generator 40 (FIG. 1) adapted to input digital data *n* corresponding to the image and a clock signal *C1*, and to count pulses of the clock signal for in correspondence with the digital data to generate a pulse width modulation signal *e* for driving (driver 16) the display panel, wherein the pulse width modulation signal has a pulse width that corresponds to a number of pulses of the clock signal corresponding to a gray scale level of the image; and a clock generator 42 adapted to generate

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the clock signal, wherein the clock generator is provided with a memory (within control circuit 50) for storing a plurality of items of data.

**Tsukada, JP 02-135421**, discloses PWM grayscale circuit with variably controlled clock frequency using ROM for compensating for display characteristics.

**Sakamoto, USP 5,929,835**, discloses a non-linear display-adapted memory-based PWM tone control for a display device (FIG. 9a).

None of the above teach or suggest that the clock generator is arranged to generate each pulse of the clock signal in accordance with one of the items of data read from the memory in synchronism with a reference clock signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (703) 306-2988. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (703) 308-6725. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Alexander Eisen', is written over a horizontal line.

Alexander Eisen  
Primary Examiner  
Art Unit 2674

11 March 2005